ABSTRACT OF THE DISCLOSURE

In a solar power generation system which causes a non-insulated type inverter to convert DC power generated by a solar battery into AC power and outputs the AC power to a commercial power system, in detecting a ground fault, the differential current between the output lines of the solar battery is detected, an AC leakage current component due to the capacitance to ground of the solar battery is removed from the differential current, and it is determined whether a ground fault state has occurred by comparing a current value after removal of the AC leakage current component with a predetermined threshold value. With this arrangement, a false ground fault state determination that is caused by the influence of the AC leakage current component due to the electrostatic capacitance although the DC current path can be prevented, and a ground fault state can accurately be determined.